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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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22850	7590	07/27/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			TRAN, NGHI V	
			ART UNIT	PAPER NUMBER
			2151	
DATE MAILED: 07/27/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/995,058

Applicant(s)

SCHNITZER ET AL.

Examiner

Nghi V. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

2. Claims 4, 6, 9, 12, 17, and 20 are objected to because of the following informalities: "MIB objects" is understood for --Management Information Base-- and "DOCSIS" is understood for --Data Over Cable Service Interface Specification--. Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 11-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

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5. As can be seen by claim 11, we have an indirect recitation of an algorithm which calculates a broadband network performance metric of a first broadband network element by using calibrating method.

If the claims directly or indirectly recite a mathematical algorithm, then it must be determined whether the claimed invention as a whole is any more than the algorithm itself. That is, are the claims directed to a mathematical algorithm that is not applied to or limited by other physical elements or process steps? Arrhythmia Research Technology, Inc. v. Corazonix Corp., 958 F.2d 1053, 22 USPQ 2d 1033 (Fed. Cir. 1992). Regenerating claim 11 without the mathematical steps, we have the following:

Claim 11

A method of calibrating a broadband network performance metric of a first broadband network element, the method comprising:

- obtaining network performance data;
- obtaining first values indicative of the broadband network performance metric from the obtained network performance data;
- obtaining second values indicative of the broadband network performance metric provided by the first broadband network element, the second values being correlated to the first values; and
- deriving a relationship between the first values and the second values of the broadband network performance metric to convert the first values to the second values.

Taking claim 11 as a whole, we have the following:

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There are three preliminary data gathering steps (obtaining network performance data; obtaining first values...; obtaining second values...) and a computational (i.e. calculation) step (deriving a relationship between the first values and the second values...). The claims do not in any way further limit the algorithm because they merely are the necessary steps to provide the data required for the algorithm. These limitations are examples of data gathering for the algorithm. In addition, the Courts have consistently held that such mere gathering and inputting of the data necessary for the solution of the algorithm does not suffice to render the claims, when considered as a whole, statutory. Arshal v. United States, 621 F.2d 421, 208 USPQ 397 (Ct. Cl. 1980), cert. den., 449 U.S. 1077 (1981), reh'g. den., 450 U.S. 1050 (1981); and In re Richman, 563 F.2d 1026, 195 USPQ 340 (CCPA 1977). It is readily apparent that when the claim is taken as a whole, the claim is directed to the preemption of a mathematical algorithm, and therefore is non-statutory.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the

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United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-5 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Phaltankar, U.S. Patent No. 6,714,549.

8. With respect to claim 1, Phaltankar teaches a system for use with a broadband network, the system comprising:

- a data collector [i.e. router] configured to be coupled to at least a portion of the broadband network and configured to obtain network performance metrics from network elements in the at least a portion of the broadband network [fig.5]; and
- a data processor configured to process the obtained network performance metric to yield normalized network performance metrics by adjusting the obtained network performance metrics [col.13, Ins.10-34].

9. With respect to claim 2, Phaltankar further teaches the processor is configured to adjust each of the obtained network performance metrics depending upon device-specific information of each network element [505 and 510 i.e. customer networks] [col.13, Ins.10-34 and figs.3&5].

10. With respect to claim 3, Phaltankar further teaches the device-specific information includes at least one of make, model, hardware version, software version,

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and element settings associated with each of the network elements [col.13, Ins.10-34 i.e. "element setting associated with each of the network elements" is interpreted as "any other parameters needed to evaluate performance of a given infrastructure design"].

11. With respect to claim 4, Phaltankar further teaches the data collector is further configured to obtain at least one of MIB objects and command line interface information from the network elements and the data processor is further configured to determine the device-specific information from the at least one of MIB objects and command line interface information [col.13, Ins.10-34 i.e. adjusted by use of the "bandwidth" interface command on each customer ATM LANE sub-interface].

10. With respect to claim 5, Phaltankar further teaches the network performance metrics are remotely-accessible [col.3, Ins.3-53] standard management instrumentation [figs.3 and 5].

11. With respect to claim 7, Phaltankar further teaches at least one of the data collector and the data processor comprise software instructions and a computer processor configured to read and execute the software instructions [col.11, ln.32 - col.12, ln.24 i.e. software].

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12. Claims 11 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Nazarathy et al., U.S. Patent No. 6,490,727 (hereinafter Nazarathy).

13. With respect to claim 11, Nazarathy teaches a method of calibrating a broadband network performance metric of a first broadband network element [see abstract], the method comprising:

- obtaining network performance data [fig.7];
- obtaining first values indicative of the broadband network performance metric from the obtained network performance data [182 i.e. MAC];
- obtaining second values indicative of the broadband network performance metric provided by the first broadband network element, the second values being correlated to the first values [190 i.e. burst receiver]; and
- deriving a relationship between the first values and the second values of the broadband network performance metric to convert the first values to the second values [col.9, ln.25 - col.11, ln.31].

14. With respect to claim 15, Nazarathy further teaches the network performance data are obtained corresponding to a range of first values and second values [fig.12].

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 6 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phaltankar as applied to claim 5 above, and further in view of Dziekan et al., U.S. Patent No. 6,704,288 (hereinafter Dziekan).

17. With respect to claim 6, Phaltankar further teaches the network performance metrics include at least one of signal-to-noise ratio, power level, equalizer coefficients, setting information, error information, counter information, bandwidth, quality of service, latency, and jitter [Phaltankar, col.4, Ins.31-59 i.e. reduces processing delay of data traffic through the infrastructure].

However, Phaltankar is silent on the broadband network is a DOCSIS network.

In a communication system, Dziekan discloses the broadband network is a DOCSIS network [Dziekan, col.1, Ins.31-53].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Phaltankar in view of Dziekan by specifying the broadband network is a DOCSIS network because a cable modem generally uses standardized communication methods based on DOCSIS to access data service through the cable network [Dziekan, col.1, Ins.41-52]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated to modify

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Phaltankar in view of Dziekan in order to be placed inside the cable network to support service delivery or to monitor service quality [Dziekan, col.1, Ins.37-40].

18. With respect to claim 21, Phaltankar further teaches the broadband network performance metrics further include at least one of a codeword error, a power level, an equalizer setting, and a packet size distribution [col.13, Ins.11-25 i.e. the metrics can be properly adjusted by use of the "bandwidth" = a packet size distribution], and the data processor is configured to process at least one of a signal-to-noise ratio, a power level, an equalizer coefficient, a setting information, an error information, a counter information, a bandwidth, a quality of service, a latency, and a jitter and at least one of the codeword error, the power level, the equalizer setting, and the packet size distribution to yield the normalized metrics [col.4, Ins.31-59 i.e. reduces processing delay of data traffic = a latency].

19. With respect to claim 22, Phaltankar is silent on the data processor is configured to process signal-to-noise ratio metrics and codeword error metrics to obtain channel noise ratio normalized metrics.

In a communication system, Dziekan discloses the data processor is configured to process signal-to-noise ratio metrics [Dziekan, col.7, Ins.4-31] and codeword error metrics to obtain channel noise ratio normalized metrics [Dziekan, col.4, ln.58 - col.5, ln.47].

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Phaltankar in view of Dziekan by configuring to process signal-to-noise ratio metrics and codeword error metrics to obtain channel noise ratio normalized metrics because this feature allows service providers to monitor the quality of its delivered communication service, which in many cases is based on the accurate delivery of digital information and to report network performance o subscribed service providers [Dziekan, col.4, Ins.58-63]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated to modify Phaltankar in view of Dziekan in order to determine the health of the various network elements and can asynchronously send network health information to authorized service providers [Dziekan, col.4, Ins.65-68].

20. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dziekan et al., U.S. Patent No. 6,704,288 (hereinafter Dziekan), in view of Parnell et al., U.S. Patent Application Publication No. 2002/0170071 (hereinafter Parnell).

21. With respect to claim 8, Dziekan teaches a computer program product residing on a computer-readable medium and including computer-executable instructions for causing a computer to:

- obtain network performance metrics from broadband network elements [Dziekan, 102, 104, or 106 i.e. network elements and terminal equipment];

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- use network management instrumentation [100 i.e. HFC access-network manager] associated with the broadband network elements to determine network performance metrics [fig.1]; and
- normalize the obtained network performance metrics to yield normalized network performance metrics by adjusting the obtained network performance metrics, as appropriate, such that a first network performance metric from a first network element and having a first value and a second network performance metric, from a second network element and of a similar type as the first network performance metric, and having a second value, different from the first value, yield first and second normalized network performance metrics [col.4, ln.35 - col.5, ln.58].

However, Dziekan is silent on using the determined calibration algorithm.

In a cable system, Parnell discloses using the determined calibration algorithm [Parnell, paragraph 0004].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Dziekan in view of Parnell by using the determined calibration algorithm because this feature calculates the optimum transmit level for the set top converter [Parnell, paragraph 0004]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated to modify Dziekan in view of Parnell in order to calculate a weighted average transmission [Parnell, paragraph 0007].

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22. With respect to claim 9, Dziekan further teaches the network management instrumentation includes MIB objects and the instructions for causing the computer to use the network management instrumentation are for causing the computer to identify the first and second network elements using the MIB objects [col.4, Ins.5-34].

23. With respect to claim 10, Dziekan further teaches the instruction for causing the computer to identify the first and second network elements cause the computer to determine at least one of make, model, hardware version, software version, and setting of each of the first and second network elements [170 i.e. terminal equipment list].

24. Claims 12-14 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nazarathy, as applied to claim 11 above, and further in view of Dziekan et al., U.S. Patent No. 6,704,288 (hereinafter Dziekan).

25. With respect to claim 12, Nazarathy further teaches obtaining the network performance data comprises measuring characteristics of a network associated with the first network element, the network is a DOCSIS network [col.15, Ins.47-64].

However, Nazarathy is silent on obtaining the second values comprises polling MIB objects of the first element.

In a cable system, Dziekan discloses the second values comprises polling MIB objects of the first element [col.4, Ins.5-34 and col.2, Ins.39-59].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Nazarathy in view of Dziekan by polling MIB object of the first element because this feature calculates the optimum transmit level for the set top converter [Parnell, paragraph 0004]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated to modify Dziekan in view of Parnell in order to calculate a weighted average transmission [Parnell, paragraph 0007].

26. With respect to claim 13, Nazarathy further teaches deriving the relationship comprises curve fitting the first and the second values [col.14, Ins.9-45].

27. With respect to claim 14, Nazarathy further teaches deriving the relationship further comprises determining coefficients of a polynomial describing the second values as a function of the first values [col.20, ln.25 - col.21, ln.67].

28. With respect to claims 17-20, Nazarathy is silent on deriving the relationship comprises using third valued of MIB objects other than the second values.

In a cable system, Dziekan discloses deriving the relationship comprises using third valued of MIB objects other than the second values [col.4, Ins.5-34 and col.2, Ins.39-59].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Nazarathy in view of Dziekan by polling MIB

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object of the first element because this feature calculates the optimum transmit level for the set top converter [Parnell, paragraph 0004]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated to modify Dziekan in view of Parnell in order to calculate a weighted average transmission [Parnell, paragraph 0007].

29. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nazarathy, as applied to claim 11 above, and further in view of Phaltankar, U.S. Patent No. 6,714,549 (hereinafter Phaltankar).

30. With respect to claim 16, Nazarathy is silent on injecting test data into at least a portion of the network associated with the network element to affect the network performance data.

In a communication system, Phaltankar discloses injecting test data into at least a portion of the network associated with the network element to affect the network performance data [col.13, ln.51 - col.14, ln.44].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Nazarathy in view of Phaltankar by injecting the test data into at least a portion of the network because this feature ensures that the network system should works properly. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated to modify Nazarathy in view of Phaltankar in order to test the network system.

Response to Arguments

31. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

32. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi V. Tran whose telephone number is (571) 272-4067. The examiner can normally be reached on Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nghi V Tran
Patent Examiner
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NT


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